

REMARKS / ARGUMENTS

I. General Remarks and Disposition of the Claims.

Claims 1-20 are pending in this application. Claims 1-20 have been rejected. Claims 1 and 13 have been amended in this Response. Claim 3 has been cancelled herein.

All the above amendments are made in a good faith effort to advance the prosecution on the merits of this case. Antecedent basis for these amendments can be found throughout the specification. Applicant respectfully requests that the above amendments be entered and further request reconsideration of the application in view of the amendments and the remarks contained herein.

II. Rejections under 35 U.S.C. § 103.

A. Rejection of Claims 1-5.

Claims 1-5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 4,883,122 issued to Puri, et al. (hereinafter “*Puri*”) in view of U.S. Pat. No. 5,402,847 issued to Wilson, et al. (hereinafter “*Wilson*”). (Office Action at 2.) With respect to claim 1, the Examiner states:

Puri discloses a method of stimulating a water sensitive coal bed seam comprising contacting the coal bed seam with nitrogen gas (see col. 1, lines 63-66) and producing methane gas. Puri states the nitrogen can be heated (col. 2, lines 64-66) but does not disclose the nitrogen is hot gas which heats the coal seam such the coal bed seam shrink and forms methane gas flow passages. Wilson teaches the use injection gases, at 350°F, in coal bed seams shrinks the coal bed and increases cleats and interstices for methane gas to flow through (col. 3, lines 6-16).

(Office Action at 2.) Applicant respectfully disagrees because the Examiner has not established a *prima facie* case of obviousness, in that the cited references do not teach or suggest each and every claim limitation. *See MPEP § 2142.* In particular, independent claim 1, as amended, recites the use of hot nitrogen gas that has a temperature in the range of from about the in situ ambient temperature to about 325°F. Rather than disclosing a temperature in the range of from about the in situ ambient temperature to about 325°F, *Wilson* is directed to temperatures above 350°F, and more specifically to temperatures from 350°F to 600°F (*Wilson*, 2:55; claims 5, 10, and 12). Accordingly, *Wilson* does not teach or suggest a temperature in the range of from about

the in situ ambient temperature to about 325°F. Applicant respectfully asserts that *Puri* has not been shown to remedy this deficiency. Accordingly, *Wilson* in view of *Puri* does not teach each and every limitation of claim 1.

Therefore, independent claim 1 is not obviated by *Wilson* in view of *Puri*. The remaining rejected claims depend either directly or indirectly on independent claim 1. All these dependent claims, which include all the limitations of their corresponding independent claim, are allowable for at least the reasons cited above with respect to independent claim 1. Accordingly, Applicant respectfully requests withdrawal of this rejection with respect to claims 1-5.

B. Rejection of Claims 6, 7, and 9-11.

Claims 6, 7, and 9-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Puri* in view of *Wilson* and further in view of U.S. Pat. No. 5,539,853 issued to Jamaluddin (hereinafter “*Jamaluddin*”). (Office Action at 3.) Applicant respectfully disagree. To establish a *prima facie* case of obviousness, the cited references must teach or suggest each and every claim limitation. *See MPEP* § 2142.

Claims 6, 7, and 9-11 depend from independent claim 1. As discussed in Section IIA above, claim 1 is not obvious over *Puri* in view of *Wilson* because neither *Puri* nor *Wilson* disclose the requisite hot nitrogen gas that has “a temperature in the range of from about the in situ ambient temperature to about 325°F” as recited in Applicant’s independent claim 1.

Nor can *Jamaluddin* be used to supply this missing recitation. In fact, the heater disclosed in *Jamaluddin* is an electrical heater at 65 kW that would only be used in applications requiring a temperature above 600°C (1112°F) (*Jamaluddin*, 6:3-8). The temperatures of above 1112°F that the electrical heater taught by *Jamaluddin* would produce are not compatible with those disclosed in the present invention of from about the in situ ambient temperature to about 325°F. Accordingly, *Puri* in view of *Wilson* and further in view of *Jamaluddin* does not teach “a temperature in the range of from about the in situ ambient temperature to about 325°F” as recited in claim 1 and thus does not disclose or suggest every element of independent claim 1, the limitations of which dependent claims 6, 7, and 9-11 also include. *See 35 U.S.C. § 112 ¶ 4* (2004). Therefore, dependent claims 6, 7, and 9-11 are allowable for at least the reasons cited above with respect to independent claim 1. Accordingly, Applicant respectfully asserts that claims 6, 7, and 9-11 are patentable over *Puri* in view of *Wilson* and *Jamaluddin*, and thus request the withdrawal of these rejections.

C. Rejection of Claim 8.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Puri* in view of *Wilson* and further in view of U.S. Pat. No. 5,769,165 issued to *Bross* (hereinafter “*Bross*”). (Office Action at 4.) Applicant respectfully disagree. To establish a *prima facie* case of obviousness, the cited references must teach or suggest each and every claim limitation. *See* MPEP § 2142.

Claim 8 depends from independent claim 1. As discussed in Section IIA above, claim 1 is not obvious over *Puri* in view of *Wilson* because neither *Puri* nor *Wilson* disclose the requisite hot nitrogen gas that has “a temperature in the range of from about the in situ ambient temperature to about 325°F,” as recited in Applicant’s independent claim 1. Nor can *Bross* be used to supply this missing recitation. Thus, even if *Bross* does teach or suggest a casing with perforations, this combination of references does not obviate claim 8 because *Puri* and *Wilson* do not obviate the methods as recited in claim 1, the limitations of which dependent claim 8 also includes. *See* 35 U.S.C. § 112 ¶ 4 (2004). Therefore, dependent claim 8 is allowable for at least the reasons cited above with respect to independent claim 1. Accordingly, Applicant respectfully asserts that claim 8 is patentable over *Puri* in view of *Wilson* and *Bross*, and thus request the withdrawal of these rejections.

D. Rejection of Claims 13, 14, and 16-18.

Claims 13, 14, and 16-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Puri* in view of *Wilson* and *Jamaluddin*. (Office Action at 5.) With respect to claims 13 and 14, the Examiner states:

Puri disclose providing a source of nitrogen on the surface and pump the gas at a relative low rate in to wellbore into the coal bed seam and heating the nitrogen and producing methane gas (col. 1, lines 63-66 and col. 2, lines 64-66). *Puri* does not disclose a heater or the nitrogen heats the coal bed and causes it to shrink and form flow passages. *Jamaluddin* et al. teaches that electrical heaters disposed with in a wellbore are well known in the art (see col. 1, line 43-col. 2, lines 65). *Wilson* teaches the use of injection gases, at 350 F, in coal bed seams shrinks the coal bed and increases cleats and interstices for methane gas to flow through (col. 3, lines 6-16).

(Office Action at 5-6.) Applicant respectfully disagrees because the Examiner has not established a *prima facie* case of obviousness, in that the cited references do not teach or suggest

each and every claim limitation. *See MPEP § 2142.* In particular, independent claim 13, as amended, recites the use of hot nitrogen gas that has a temperature in the range of from about the in situ ambient temperature to about 325°F. Rather than disclosing a temperature in the range of from about the in situ ambient temperature to about 325°F, *Wilson* is directed to temperatures above 350°F, and more specifically to temperatures from 350°F to 600°F (*Wilson*, 2:55; claims 5, 10, and 12). Accordingly, *Wilson* does not teach or suggest a temperature in the range of from about the in situ ambient temperature to about 325°F. Applicant respectfully asserts that neither *Puri* nor *Jamaluddin* have been shown to remedy this deficiency. In fact, the heater disclosed in *Jamaluddin* is an electrical heater at 65 kW that would only be used in applications requiring a temperature above 600°C (1112°F) (*Jamaluddin*, 6:3-8). The temperatures of above 1112°F that the electrical heater taught by *Jamaluddin* would produce are not compatible with those disclosed in the present invention of from about the in situ ambient temperature to about 325°F. Accordingly, *Puri* in view of *Wilson* and further in view of *Jamaluddin* does not teach “heating the nitrogen gas by the heater to a temperature in the range of from about the in situ ambient temperature to about 325°F” as recited in claim 13 and thus does not disclose or suggest every element of independent claim 13.

Therefore, independent claim 13 is not obviated by *Wilson* in view of *Puri* and *Jamaluddin*. The remaining rejected claims depend either directly or indirectly on independent claim 13. All these dependent claims, which include all the limitations of their corresponding independent claim, are allowable for at least the reasons cited above with respect to independent claim 13. Accordingly, Applicant respectfully requests withdrawal of this rejection with respect to claims 14, and 16-18.

E. Rejection of Claims 12 and 19.

Claims 12 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Puri* in view of *Wilson* and *Jamaluddin* and further in view of U.S. Pat. No. 4,962,815 issued to Shultz et al. (hereinafter “*Shultz*”). (Office Action at 5.) Applicant respectfully disagree. To establish a *prima facie* case of obviousness, the cited references must teach or suggest each and every claim limitation. *See MPEP § 2142.*

Claims 12 and 19 depend from independent claims 1 and 13, respectively. As discussed in Section IIB and IID above, claims 1 and 13 are not obvious over *Puri* in view of *Wilson* and *Jamaluddin* because neither *Puri* nor *Wilson* nor *Jamaluddin* disclose the requisite

hot nitrogen gas that has a temperature in the range of from about the in situ ambient temperature to about 325°F, as recited in Applicant's independent claims 1 and 13. Nor can *Shultz* be used to supply this missing recitation. Thus, even if *Shultz* does teach or suggest packers, this combination of references does not obviate claims 12 and 19 because *Puri*, *Wilson*, and *Jamaluddin* do not obviate the methods as recited in claims 1 and 13, the limitations of which dependent claims 12 and 19 also include. *See* 35 U.S.C. § 112 ¶ 4 (2004). Therefore, dependent claims 12 and 19 are allowable for at least the reasons cited above with respect to independent claims 1 and 13. Accordingly, Applicant respectfully asserts that claims 12 and 19 are patentable over *Puri* in view of *Wilson*, *Jamaluddin*, and *Shultz*, and thus request the withdrawal of these rejections.

F. Rejection of Claim 15.

Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Puri* in view of *Wilson* and *Jamaluddin* and further in view of *Bross*. (Office Action at 7.) Applicant respectfully disagree. To establish a *prima facie* case of obviousness, the cited references must teach or suggest each and every claim limitation. *See* MPEP § 2142.

Claim 15 depends from independent claim 13. As discussed in Section IID above, claim 13 is not obvious over *Puri* in view of *Wilson* and *Jamaluddin* because neither *Puri* nor *Wilson* nor *Jamaluddin* disclose the requisite "heating the nitrogen gas by the heater to a temperature in the range of from about the in situ ambient temperature to about 325°F" as recited in Applicant's independent claim 13. Nor can *Bross* be used to supply this missing recitation. Thus, even if *Bross* does teach or suggest a casing with perforations, this combination of references does not obviate claim 15 because *Puri*, *Wilson*, and *Jamaluddin* do not obviate the methods as recited in claim 13, the limitations of which dependent claim 15 also includes. *See* 35 U.S.C. § 112 ¶ 4 (2004). Therefore, dependent claim 15 is allowable for at least the reasons cited above with respect to independent claim 13. Accordingly, Applicant respectfully asserts that claim 15 is patentable over *Puri* in view of *Wilson*, *Jamaluddin*, and *Bross*, and thus request the withdrawal of these rejections.

G. Rejection of Claim 20.

Claim 20 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Puri* in view of *Wilson* and *Jamaluddin* and further in view of U.S. Pat. No. 3,814,480 issued to

Dahl et al (hereinafter “*Dahl*”). (Office Action at 7.) Applicant respectfully disagree. To establish a *prima facie* case of obviousness, the cited references must teach or suggest each and every claim limitation. *See MPEP § 2142.*

Claim 20 depends from independent claim 13. As discussed in Section IID above, claim 13 is not obvious over *Puri* in view of *Wilson* and *Jamaluddin* because neither *Puri* nor *Wilson* nor *Jamaluddin* disclose the requisite “heating the nitrogen gas by the heater to a temperature in the range of from about the in situ ambient temperature to about 325°F” as recited in Applicant’s independent claim 13. Nor can *Dahl* be used to supply this missing recitation. Thus, even if *Dahl* does teach or suggest a plurality of coal bed seams, this combination of references does not obviate claim 20 because *Puri*, *Wilson*, and *Jamaluddin* do not obviate the methods as recited in claim 13, the limitations of which dependent claim 20 also includes. *See* 35 U.S.C. § 112 ¶ 4 (2004). Therefore, dependent claim 20 is allowable for at least the reasons cited above with respect to independent claim 13. Accordingly, Applicant respectfully asserts that claim 20 is patentable over *Puri* in view of *Wilson*, *Jamaluddin*, and *Dahl*, and thus request the withdrawal of these rejections.

III. No Waiver

All of Applicant’s arguments and amendments are without prejudice or disclaimer. Additionally, Applicant has merely discussed example distinctions from the *Puri*, *Wilson*, *Jamaluddin*, *Bross*, *Shultz*, and *Dahl* references. Other distinctions may exist, and Applicant reserves the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicant does not acquiesce to the Examiner’s additional statements, such as, for example, any statements relating to what would be obvious to a person of ordinary skill in the art. The example distinctions discussed by Applicant are sufficient to overcome the obviousness rejections.

SUMMARY

In light of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections. Applicant further submits that the application is now in condition for allowance, and earnestly solicits timely notice of the same. Should the Examiner have any questions, comments, or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone, facsimile, or electronic mail.

Applicant believes that there are no fees due in association with this filing. However, should the Commissioner deem that any fees are due, including any fees for extensions of time, Applicant respectfully requests that the Commissioner accept this as a Petition Therefor, and direct that any additional fees be charged to Halliburton Energy Services, Inc. Deposit Account No. 08-0300.

Respectfully submitted,



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